

LANDSAT 9



Issue

NASA successfully launched earth monitoring satellite Landsat-9 from Vandenberg Space Force Base in California.

Background

The first Landsat satellite was launched in 1972. The images clicked by the satellite have been made free and publicly available

Details

- The Landsat satellites have helped in understanding how land usage has changed over the decades by taking images of earth.
- The images of Landsat have benefitted farmers, researchers, policy analysts, glaciologists, and seismologists among many.
- They have been used to study and monitor forests, coral reefs, glacial melting, water quality etc. This has been a major gift of the technology.

The Landsat 9

- The Landsat 9 joins Landsat 8 to collect images of earth together. It takes 8 days to capture the images of whole Earth.
- The instruments used by Landsat 9 are similar to Landsat 8 but the sensors are most advanced. They can capture images with greater colour depths and clarity.
- The data collected from the satellite will help in understanding impacts of wildfire, coral reef degradation, the retreat of glaciers, and deforestation.

- The satellite will make contact with the ground station every three hours and dump the data it has collected in form of pictures.

Instruments used

- Operational Land Imager 2 (OLI-2): it will capture reflected sunlight from Earth's surface to study near-infrared, visible and short wave spectrums.
- Thermal Infrared Sensor 2 (TIRS-2): it makes use of refractive telescope and photosensitive detectors to identify thermal radiation and measure Earth's surface temperatures.

Role in monitoring climate change

- It will help in identifying drought-prone areas in forests by studying the vegetation patterns.
- It will help in understanding extent of burning during wildfire events.
- Studying water bodies can help in monitoring extent of algal bloom and its effects.
- Scientists can monitor the glacial melt events in Polar Regions as well as non-polar regions of the Earth.

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